

# Staff Webinar

Request for Revised Proposals and Information  
Appliance Efficiency Standards Rulemaking

January 15, 2014

Consuelo Martinez, Office Manager  
Harinder Singh, Senior Electrical Engineer  
Appliances & Existing Buildings Office  
Efficiency Division



# Agenda

- ❑ Overview of Rulemaking Process
- ❑ Proposal Information and Conclusions
- ❑ Purpose
- ❑ Topics
  - ❖ Portable Electric Spas (Josh Butzbaugh)
  - ❖ Pool Pumps & Motors (Tuan Ngo)
  - ❖ Commercial Clothes Dryers (Tuan Ngo)
  - ❖ Network Equipment (Ken Rider)
- ❑ Next Steps

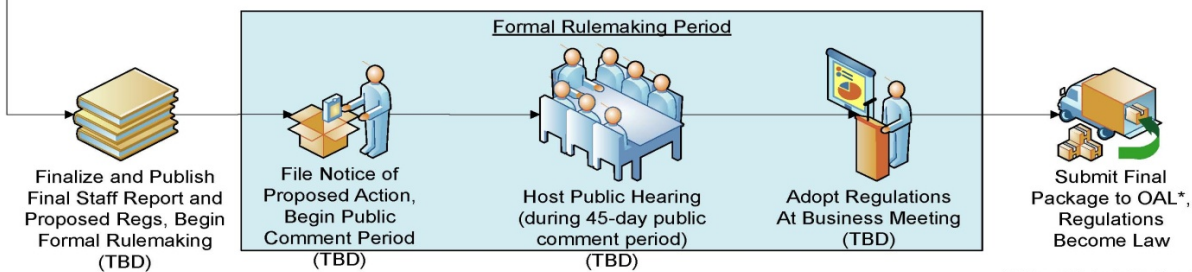
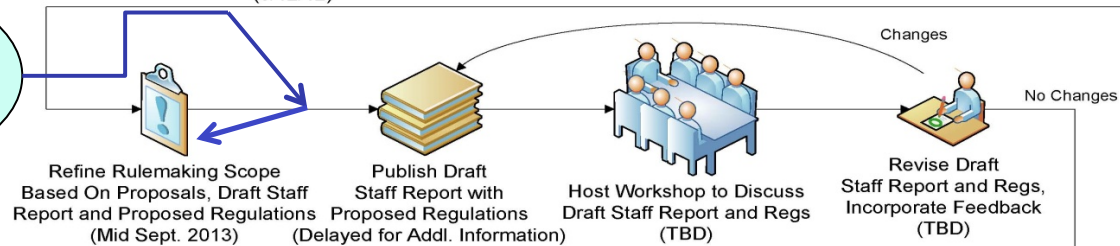


# Overview of Rulemaking Process

## Appliance Energy Efficiency Rulemaking Process



**Webinar:  
1-15-2014  
Proposals Due  
by 5-15-2014**



\*Office of Administrative Law



# Proposals

In August 2013, the Energy Commission received rulemaking proposals for 19 appliances. Staff evaluated all submitted proposals based on the Warren-Alquist Act criteria stated below:

- ☐ Potential for significant statewide energy/water savings
- ☐ Technologically feasible efficiency levels or measures
- ☐ No added total costs for consumers over the life of the product

Priorities among appliances were assessed based on the potential for the measure to achieve the most cost effective energy-savings opportunities.

Staff presented their analysis to the Lead Commissioner for his direction.

Lead Commissioner has directed the staff to conduct a webinar to seek additional input, information and/or updated proposals to maximize the energy savings opportunities.



# Conclusions

For stakeholder proposals for Portable Electric Spas, Pool Pumps & Motors, Commercial Clothes Dryers, and Network Equipment, staff concluded that the current proposals:

- ❖ Miss significant energy savings opportunities
- ❖ Should have a broader or different scope
- ❖ Could benefit from additional research and data to support recommended efficiency levels



# Purpose of Webinar

To identify and capture comprehensive energy savings for Portable Electric Spas, Pool Pumps & Motors, Commercial Clothes Dryers, and Network Equipment, Energy Commission staff are:

- ❑ Conducting this webinar to discuss these topics with the stakeholders
- ❑ Seeking additional information and/or revised proposals, data, analyses, and comments from stakeholders
- ❑ Providing an opportunity for stakeholders to ask questions related to the process and to discuss issues related to process and topics



# Portable Electric Spas

## Docket Number 12-AAER-2G

Appliance Efficiency Rulemaking  
California Energy Commission

January 15, 2014

Josh Butzbaugh, Senior Fellow  
[Josh.Butzbaugh@energy.ca.gov](mailto:Josh.Butzbaugh@energy.ca.gov)  
(916) 653-6231



# Proposals

Proposals received:

- ❑ **California Investor-owned Utilities**  
proposed categorical label for spa efficiency
- ❑ **Natural Resources Defense Council**  
supported the IOU labeling proposal & recommended updating the spa standard in Phase 2 of rulemaking
- ❑ **International Hot Tub Association**  
proposed adopting APSP-14 standard





# Evaluation – Labeling

The majority of portable electric spas are not labeled with energy use information.

- ☐ No mechanism to ensure compliance
- ☐ No mechanism to offer consumer choice

Information collected by the Energy Commission that is available for a potential label:

- ☐ Manufacturer, brand, model, volume, capacity, and voltage
- ☐ Standby power
  - Annual energy use
  - Annual operating cost



# Evaluation – Installed Base

Residential Appliance Saturation Survey (RASS) – KEMA (2010)

- ❑ 10% of California residences own a spa or hot tub.
  - Of these, 92% are in single-family homes.
    - ❖ Of those in single-family homes, 46% are outdoor, above-ground spas.
- ❑ Nearly all outdoor, above-ground spas are portable electric units with self-contained electrical heating elements.
- ❑ The California installed base is estimated as 532,000 portable electric spas.



# Evaluation - Standby Power

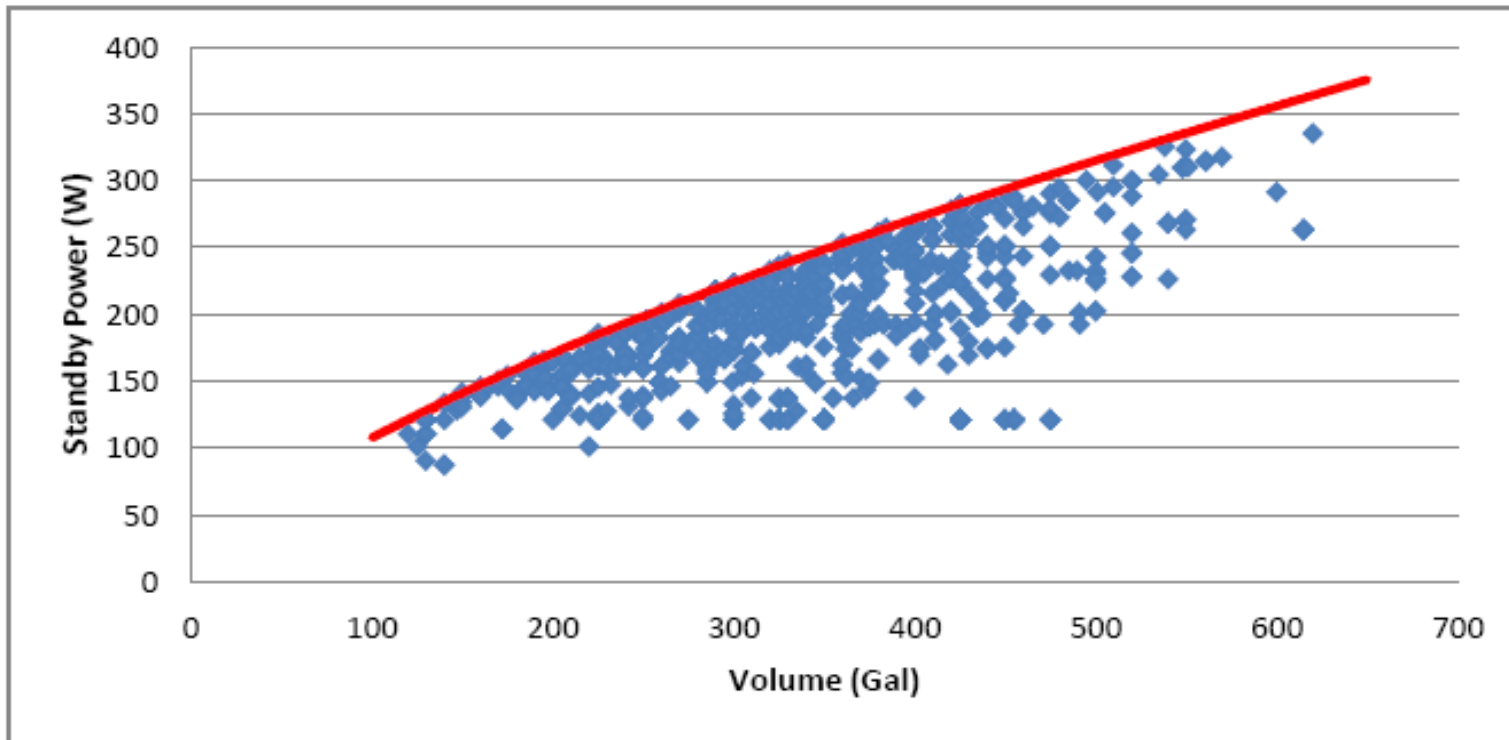
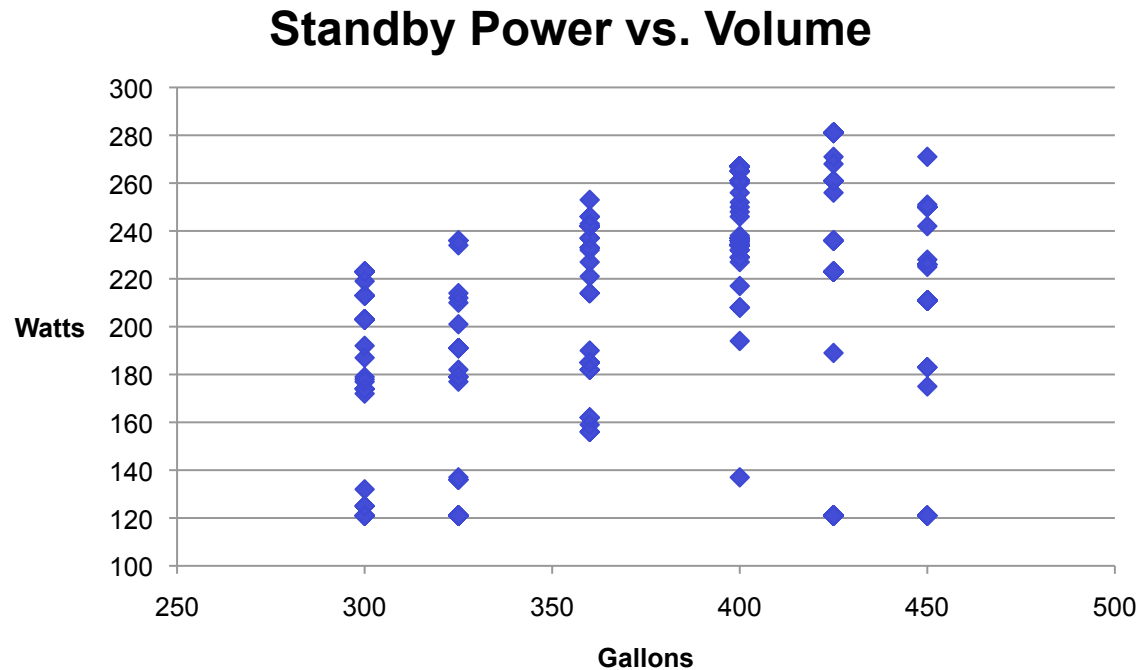


Figure 9.1 Current Portable Electric Spa Standby Energy Use and 2006 Standard (Red)



# Evaluation - Standby Power



Standby power of 292 models across 300-, 325-, 360-, 400-, 425-, and 450-gallon volumes.

- 33 models are 121 watts (lowest data point)
- 29 models are 281 watts (highest data point)



# Conclusions

Information received in the docket indicates:

- ☐ Lack of energy use labeling
- ☐ Significant installed base
- ☐ Wide variation in energy consumption, holding volume constant



# Specific Request

Call for interested parties to submit updated proposals or comment letters that:

- ❑ Identify the reasons for the wide variation in standby power
- ❑ Determine what differentiates the more efficient spas from the less efficient spas
- ❑ Propose the appropriate solution. Some combination of:
  - Labeling
  - Updated Standard
  - Updated Test Procedure
  - Other?



# Discussion & Comments

Josh Butzbaugh

[josh.butzbaugh@energy.ca.gov](mailto:josh.butzbaugh@energy.ca.gov)

916-653-6231

Portable Electric Spas Docket #12-AAER-2G

at [docket@energy.ca.gov](mailto:docket@energy.ca.gov)



# Pool Pumps and Motors

## Docket Number 12-AAER-2F

Appliance Efficiency Rulemaking  
California Energy Commission

January 15, 2014

Tuan Ngo, Mechanical Engineer

[Tuan.Ngo@energy.ca.gov](mailto:Tuan.Ngo@energy.ca.gov)

(916) 651-2908





# Proposals

Proposals received:

- ❑ **California Investor-Owned Utilities (IOUs)**  
Proposed amending prescriptive standards in Title 20 with a performance-based standard for pumps and motors, new test method (not yet developed), revised reporting requirements, and other miscellaneous improvements
- ❑ **Natural Resources Defense Council**  
Supported the IOU proposal
- ❑ **Hayward Industry**  
Supported the IOU proposal



# Evaluation and Conclusions

- ❑ Staff evaluated proposals and determined that they contain sufficient facts and analysis to support a regulation;
- ❑ However, staff believes that:
  - The scope of the proposal is limited and misses other energy savings
  - It is not clear whether the base case energy consumption or the estimated energy savings exclude savings that were achieved in previous updates to the standards,
  - The proposed performance standards and reporting requirements were cumbersome and confusing, and
  - The proposed standards were based on a yet-to-be-developed test procedure.



# Specific Request

Call for interested parties to submit updated proposals or comment letters that:

- ❑ Expand the scope of the proposal to include all pumps and motors regardless of size,
- ❑ Expand the scope of the proposal to include commercial as well as residential applications, and provide additional data on commercial pumps and motors,
- ❑ Clarify or revise the base case energy consumption and energy savings to exclude reductions that were achieved in the 2004 and 2008 updates to the standards,
- ❑ Revise the proposed performance standard and reporting requirements to improve clarity and effectiveness,
- ❑ Revise test procedure and report data using new test procedure. Commission staff will publish a framework identifying key elements for a revised test procedure.



# Discussion & Comments

Tuan Ngo, Mechanical Engineer

[Tuan.Ngo@energy.ca.gov](mailto:Tuan.Ngo@energy.ca.gov)

916-651-2908

Pool Pumps & Motors #12-AAER-2F

at [docket@energy.ca.gov](https://docket.energy.ca.gov)



# Commercial Clothes Dryers

## Docket Number 12-AAER-2D

Appliance Efficiency Rulemaking  
California Energy Commission

January 15, 2014

Tuan Ngo, Mechanical Engineer

[Tuan.Ngo@energy.ca.gov](mailto:Tuan.Ngo@energy.ca.gov)

(916) 651-2908



# Proposals

Proposals received:

❑ **California Investor-owned Utilities**

- Modify DOE's residential dryer test method for the testing of commercial clothes dryers. Require manufacturers to submit test results for these units.
- Adopt minimum energy performance standards for the two most popular natural gas-fired commercial clothes dryers: coin operated laundromats and on-premise laundromats.

❑ **Natural Resources Defense Council**

Supported the IOU proposal.

❑ **Association of Home Appliance Manufacturers (AHAM)**

No standards for commercial clothes dryers.



# Evaluation and Conclusions

- ❑ Staff evaluated the proposal, and determined that its conclusions are not supported with data and information;
- ❑ Staff was concerned that:
  - The proposal contained test results that were based on the test method for residential clothes dryers
  - The scope of the proposal applied to commercial dryers and did not include large commercial and industrial dryers.



# Specific Request

Call for interested parties to submit comment letters and/or updated proposals that include:

- ❑ a new test procedure to measure the energy consumption of coin-operated and commercial industrial clothes dryers or modify the scope of existing DOE's residential clothes dryer's test procedure to include commercial clothes dryers.
- ❑ minimum efficiency standards or design standards based on test data collected from modified or new test procedure.

Staff anticipates working closely with interested parties for the modification or development of test procedure.





# Discussion & Comments

Tuan Ngo, Mechanical Engineer

[Tuan.Ngo@energy.ca.gov](mailto:Tuan.Ngo@energy.ca.gov)

916-651-2908

Commercial Clothes Dryers #12-AAER-2D

at [docket@energy.ca.gov](mailto:docket@energy.ca.gov)



# Network Equipment

## Docket Number 12-AAER-2A

Appliance Efficiency Rulemaking  
California Energy Commission

January 15, 2014

Ken Rider, Associate Electrical Engineer

[Ken.Rider@energy.ca.gov](mailto:Ken.Rider@energy.ca.gov)

(916) 654-5006



# Proposals

Proposals received:

❑ **California Investor-owned Utilities**

- Proposed scope was for small network equipment
- Proposal built upon the ENERGY STAR framework
- Estimated energy savings of 1,700 GWh/yr after stock turnover

❑ **Natural Resources Defense Council and Aggios**

Supported the IOU proposal.

❑ **Industry Stakeholders (Arris, ITI, TechNet, TIA, Verizon)**

- Opposed standards for network equipment
- Concerns over the complexity of regulating enterprise and carrier equipment
- Related concerns about the scope of a potential regulation



# Evaluation and Conclusions

- ❑ The IOU proposal contained a sufficient core factual basis to support a regulation.
- ❑ However, the Commission believes a regulation could benefit from additional and updated information on network equipment, including information on the scope, focus, and framework of such a regulation.



# Specific Request: Data and Analysis

Call for interested parties to submit updated proposals or comments that:

- ❑ Include analysis of newly released performance data for ENERGY STAR qualified small network equipment
  - Compare relative performance to NRDC study
  - Initial market share
- ❑ Provide data on commercial network equipment – ATIS 0600015, ECR network and telecom equipment data, and other available efficiency/energy/power information
- ❑ Provide information and data regarding technology trends
  - Wi-Fi power scaling technologies
  - Market penetration of Energy Efficient Ethernet
  - Market trends towards the use of gateway devices.



# Specific Request: Data and Analysis

- ❑ Provide power supply information
  - Percentage utilizing external power supplies
  - Power supply sizing, max output versus typical operation
  - Current efficiencies
- ❑ NRDC and other data sources show large power variance between products that perform similar tasks and have similar data capacity (data shows some devices use 2-4 times as much power as the lowest power devices):
  - What causes one network device to consume less than the other?
  - Are there costs associated with those differences?
  - What are the pros/cons to product performance?



# Specific Request: Scope

- ❑ What equipment is too complex to measure efficiency or power consumption and why?
- ❑ What are the differences between indoor and outdoor equipment?
- ❑ What are the relative shipment volumes?
- ❑ ONT's were identified as high energy consuming devices:
  - What are the shipment trends for these devices in the future?
  - When do they get installed, and when do they get removed?
  - How frequently are backup battery supplies used and at what capacity?
  - What are the feature sets of ONTs? Are there differences between residential and commercial units?



# Discussion & Comments

Ken Rider

[Ken.Rider@energy.ca.gov](mailto:Ken.Rider@energy.ca.gov)

916-654-5006

Network Equipment #12-AAER-2A

at [docket@energy.ca.gov](https://docket.energy.ca.gov)





# Next Steps

## for Portable Electric Spas, Pool Pumps & Motors, Commercial Clothes Dryers, and Network Equipment

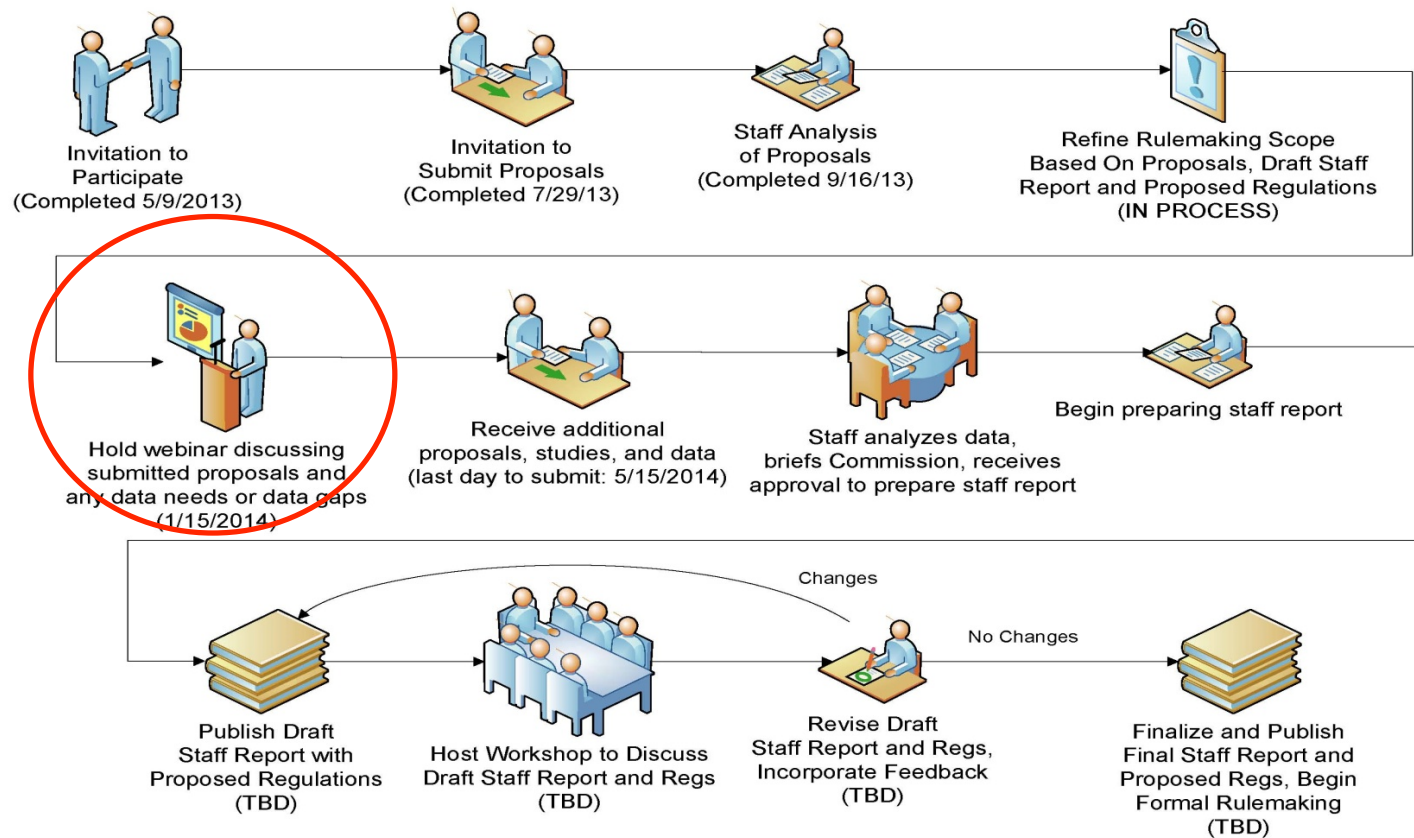
- ❑ Interested parties may submit revised proposals and to the appropriate docket for this proceeding by 4:00 p.m. (Pacific) on **May 15, 2014.**
- ❑ Energy Commission staff will reevaluate and analyze revised proposals and make recommendations to the Lead Commissioner as to whether the products should proceed with pre-rulemaking activity.
- ❑ Commission staff are available to discuss questions and concerns at anytime. Contact information is provided at the end of each presentation and at the end of these slides.



# Next Steps

## for Portable Electric Spas, Pool Pumps & Motors, Commercial Clothes Dryers, and Network Equipment

### Requirements for Submitting Additional Data and Revised Proposals



# How to Submit Revised Proposals & Information

- ❑ Responses to this request for revised proposals and information should be submitted in writing to the Dockets Unit by 4:00 p.m. (Pacific) on **May 15, 2014**.
- ❑ The Commission encourages interested parties to send information up to 5 MB by e-mail at [docket@energy.ca.gov](mailto:docket@energy.ca.gov).
- ❑ Please include the appropriate docket number in the subject line. Docket numbers can be found on the “Contacts” slide in this presentation.



# How to Submit Revised Proposals & Information

(Continued)

- ❑ If the file size is more than 5 MB, if the information includes an application for confidential designation, or if you prefer, paper copies of responses with electronic information provided on a CD or DVD may be sent to:

California Energy Commission

Dockets Office

Re: [Add Docket Number for Appropriate Appliance]

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512



# Confidentiality of Data

If interested parties need to maintain the confidentiality of specific data or information, they should contact Jared Babula in the Commission's Chief Counsel's Office before submitting the information. Otherwise, all responses received will become publicly available.

**Jared Babula**

California Energy Commission

Office of the Chief Counsel

1516 Ninth Street, MS-14, Sacramento, CA 95814-5512

Telephone: (916) 651-1462

[jared.babula@energy.ca.gov](mailto:jared.babula@energy.ca.gov)



# Contacts

Product	Docket	Contact
Portable Electric Spas	12-AAER-2G	Josh Butzbaugh
<a href="mailto:Josh.Butzbaugh@energy.ca.gov">Josh.Butzbaugh@energy.ca.gov</a> Telephone: 916-653-6231		
Pool Pump and Motors	12-AAER-2F	Tuan Ngo
<a href="mailto:Tuan.Ngo@energy.ca.gov">Tuan.Ngo@energy.ca.gov</a> Telephone: 916-651-2908		
Commercial Clothes Dryers	12-AAER-2D	Tuan Ngo
<a href="mailto:Tuan.Ngo@energy.ca.gov">Tuan.Ngo@energy.ca.gov</a> Telephone: 916-651-2908		
Network Equipment	12-AAER-2A	Ken Rider
<a href="mailto:Ken.Rider@energy.ca.gov">Ken.Rider@energy.ca.gov</a> Telephone: 916-654-5006		



# Contacts

For technical questions or questions related to rulemaking  
process please contact

Harinder Singh at (916) 654-4091

[Harinder.Singh@energy.ca.gov](mailto:Harinder.Singh@energy.ca.gov)

For any other questions, please contact:

Consuelo Martinez at (916) 651-3003

[Consuelo.Martinez@energy.ca.gov](mailto:Consuelo.Martinez@energy.ca.gov)



# Where to Find Documents for this Proceeding?

Proposals and other documents for this proceeding are available on the Energy Commission's website

<http://www.energy.ca.gov/appliances/2013rulemaking/>

(Use the “Proceeding Information” in the blue box on the right to navigate to the documents)





# Where to Find Documents for this Proceeding?

Docketed comments and proposals will be posted on the following website

<http://www.energy.ca.gov/appliances/2013rulemaking/index.html>.

Please review the website periodically for updates. If your comments do not appear within a week of sending them to the Docket, please contact the Docket Unit directly or check with the topic lead for that docket number.”



**Questions?**

**Comments?**

